



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,580	05/17/2002	Hidetoshi Sugiyama	ASA-1069	3826

24956 7590 02/23/2005

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.
1800 DIAGONAL ROAD
SUITE 370
ALEXANDRIA, VA 22314

EXAMINER

LEVKOVICH, NATALIA A

ART UNIT	PAPER NUMBER
----------	--------------

1743

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/069,580	Applicant(s) SUGIYAMA ET AL.	
	Examiner Natalia Levkovich	Art Unit 1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being unclear for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 recites: "take-out station arranged on an extension of a direction in which the lift.. is raised" which is not clear.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the

international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 5-8, 10-12 and 15 are rejected under 35 U.S.C. 102(e) as anticipated by Woerner et al. (USP 5,882,174).

Woerner teaches a system for loading or unloading parts onto or from trays.

The system comprises a first docking bay (for receiving stacks or carts carrying stacks of unused trays); a second docking bay (for processed trays); a first tray elevator that lifts unused trays, “to align the uppermost tray with a tray singulator [‘rack separator’ at a ‘rack separation station’- examiner] and clamping mechanism. The tray is singulated, i.e. first supported at a lip by retractable opposing support rails and then separated from the stack by operation of the elevator to lower the tray stack... It is subsequently unclamped and shuttled laterally [by ‘rack feeding device’, ‘rack transferring device-examiner] into alignment above the second cart, onto identical retractable support rails, where it is similarly clamped in a precise position [‘rack positioning device’-examiner]. The next tray is then raised by the first elevator and singulated and clamped in position, so that there are then two precisely positioned trays, one above each cart and tray stack”. Parts “loading or unloading takes place primarily at the shuttled tray” [at ‘parts take-out station’-examiner]. When the shuttled tray is filled or emptied, “the second elevator [‘recovery lifter’-examiner] is lifted to provide support for the tray, the singulator mechanism is opened to release the tray, and the tray stack is lowered, thus clearing the way for the next tray to be shuttled across”(Abstract). “A sensor... detects when the uppermost tray reaches the proper height for singulation. Another sensor... detects when the last tray is at the top, i.e. when the cart is about to be emptied, by detecting and

Art Unit: 1743

suitable indicator such as the height of the elevator”(Col. 3, line 40).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Woerner et al. (USP 5,882,174).

Woerner does not specify what kind of parts can be loaded or unloaded onto or from the trays handled by his system. However, it is clear from the disclosure of Woerner for the above system to allow handling any parts suitable to be loaded on trays. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed the apparatus of Woerner for supplying and/or removing disposable nozzle tips or reaction containers in automated analyzer.

Art Unit: 1743

8. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woerner et al. (USP 5,882,174) in view of Lemieux et al. (USP 5,392,914) and of Astle (USP 5,827,745).

Woerner does not teach the structure of spare part holders /trays/ racks.

Lemieux discloses pipette tip racks which may take a multiplicity of forms. Figure 5 illustrates one of the embodiments having side members 40 ['protruding parts'-examiner] extending outwardly and downwardly, thus forming a skirt of trapezoid shape with an open bottom 50. The skirt functions to center and guide a top structure over and downward onto the underlying tip rack (see col. 8, lines 50-60; col. 6, line 65).

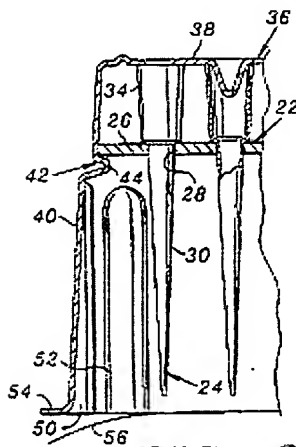


FIG. 5

Astle teaches a micropipette rack (10) shown in FIG. 3 and FIG. 6 (next page). The rack is configured to support micropipette tips and includes a horizontal internal support plate "removably secured in micropipette rack 10 by means of four outwardly disposed flanges 32 ... which are snapped into corresponding openings 34 "(Col.3, lines 25-35).

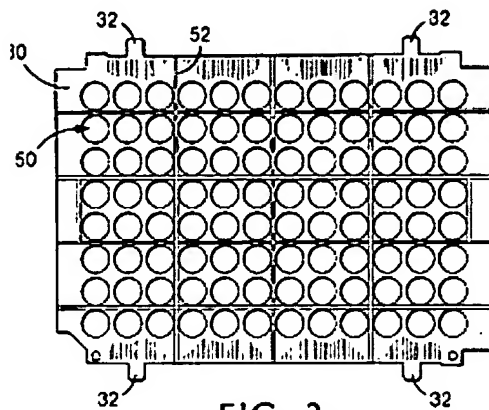


FIG. 3

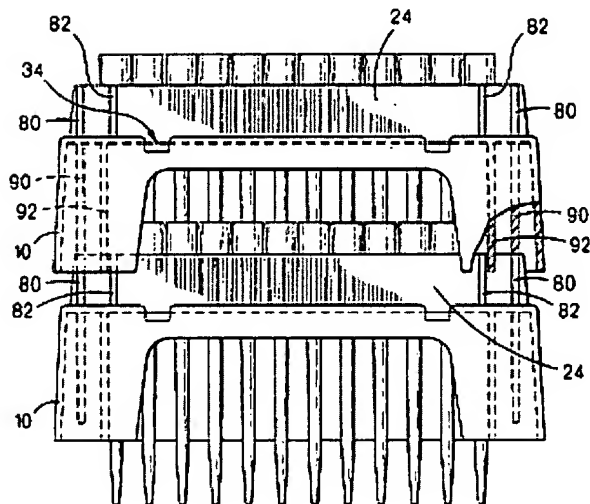


FIG. 6

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed a part rack having a tapered shape, protruding members able to abut hindering members of rack separator and positioning recesses in the modified apparatus of Woerner, in order to provide convenient and secure rack handling.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Woerner et al. (USP 5,882,174) in view of Yonemitsu et al. (USP 6,143,083).

Art Unit: 1743

Woerner does not teach a lift housing having a door. Yonemitsu et al. disclose a substrate processing apparatus comprising a cassette loaded with a plurality of wafers and a cassette chamber. The wafers are loaded into a chamber through a front door. The cassette is then lifted or lowered to a predetermined height by the cassette elevator (FIG.2; col. 1, lines 40-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed a lift housing with a part introducing door locked during the lift operations in the modified apparatus of Woerner, in order to secure rack handling.

10. Claims 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woerner et al. (USP 5,882,174) in view of Yahiro (USP 6,182,719).

Woerner does not specify a lift operating within the space limited by a guide wall.

Yahiro teaches a distribution apparatus for sucking / discharging liquids into microplates. The apparatus employs devices handling racks of disposable tips (Col.2,line 65; col.3, lines 5-10).

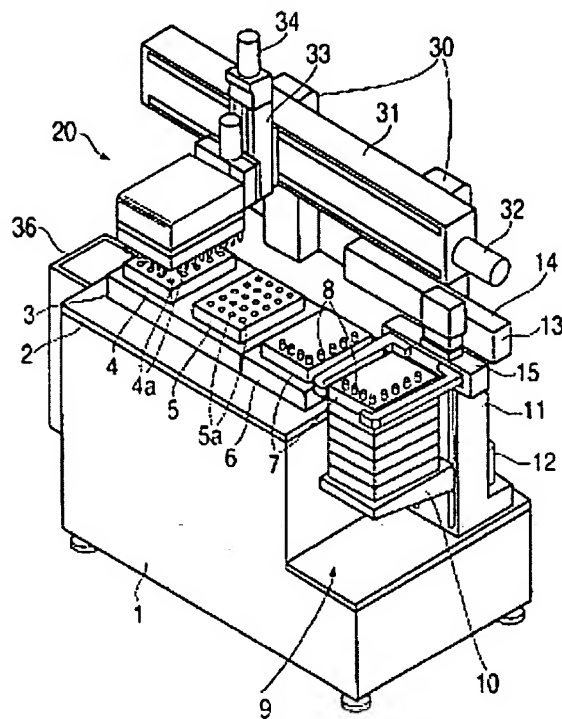


FIG. 1

Figure 1 shows “a feeder section 9 of the tip rack 7. The feeder section 9 includes a Z axis table 11 installed vertically on a platform, and the level of the platform is located a step lower than the base plate 2 on the machine bed 1. The Z axis table 11 [‘guide wall’-examiner] shifts an elevator table 10 up and down while carrying a stack of tip racks 7”. Table 10 is moved “up and down so as to raise an uppermost tip rack 7 to the same level as that of the tip rack 7 being placed on the fitting stage 6”. A moving table 13 is provided horizontally above the feeder section 9. The moving table 13 is equipped with a cylinder 14, and the cylinder 14 has a chuck 15 provided thereon. The chuck 15 seizes an uppermost tip rack 7 stacked on the elevator table 10 by placing the chuck 15 ... above the feeder section 9, lowering the cylinder 14 and then closing the chuck 15. The cylinder 14 is lifted upward, then the chuck 15 is transferred by the moving table 13 [‘transporting device’-examiner] onto the fitting stage 6, the cylinder 14 is lowered

Art Unit: 1743

again and the chuck 15 is opened. A tip rack 7 is thus transferred onto the fitting stage 6. A transfer table 31 is horizontally supported by pillars 30 standing on the base plate 2... A discard box 36 is provided at a side of the machine bed 1" (Col.3, lines 15-40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed lifts with a guiding wall in the modified apparatus of Woerner, in order to provide secure rack handling.

With respect to claim 16, Woerner does not specify nozzle tips and reaction containers being installed in a sampling device allowing adding reagents into containers. Yahiro teaches that "the distribution apparatus has a fitting stage, provided in a space between the feeder section and a distribution stage, for supporting the tip rack and fitting the distribution tips. A distribution tip alignment device is provided in the fitting stage, which aligns dislocated distribution tips at the bottom ends to a correct formation by making contact with the side wall surfaces of the distribution tips. **The tip ends of the distribution tips, which are attached to nozzles of the distribution head, are aligned** by the distribution tip alignment device at a certain specific pitch, at the time when the **distribution tips are attached to the nozzles**, or after they are attached to the nozzles. By so doing, a **liquid sample can be distributed to small diameter wells** without having a dislocation problem"(Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed a transporting device to move nozzle tips to a position at which the tips are installed in a sampling device in combination with the modified part loading apparatus of Woerner, in order to provide an automated analysis /

Art Unit: 1743


synthesis apparatus, such as that taught by Yahiro, having the ease of handling taught by Woerner.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalia Levkovich whose telephone number is 571-272-2462. The examiner can normally be reached on Mon-Fri, 8 a.m.-4p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jill Warden
Supervisory Patent Examiner
Technology Center 1700